

Please cancel claims 14, 26- 36 and 51-54 without prejudice.

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17. (Three Times Amended) A laminated composite wood product comprising a rigid substrate layer having two substantially flat sides, a melamine resin-saturated alpha cellulose sheet layer on each of said substantially flat sides, and a veneer layer on only one of said sheet layers.

37. (Three Times Amended) An unwarped laminated composite wood product made by a method comprising the steps of:

H²
(a) forming a layered structure comprising a rigid substrate layer having two substantially flat sides, a resin-saturated alpha cellulose sheet layer disposed on each of said sides, and a veneer layer disposed on only one of said sheet layers, wherein the alpha cellulose layers are simultaneously laminated to both sides of the substrate; and

(b) subjecting said structure to elevated temperature and pressure in a pressing apparatus for a time sufficient to cure said resin at said temperature and pressure, said pressing apparatus comprising a first platen and a second platen, said first platen operating at a temperature different from an operating temperature of said second platen, to provide an unwarped, laminated composite wood product.

REMARKS

In the Office Action of February 19, 2003, claims 53 and 54 were rejected under 35 U.S.C. 102(b) as anticipated by the Boggs reference (U.S. Patent No. 3,677,868). This ground of rejection is respectfully traversed.

The Boggs reference discloses the use of a resin impregnated fiber mat as a dimensional stabilizing element in a laminate structure. The structure comprises a core stock of wood strips, two resin impregnated fiber mat crossbands on either side of the core, and two outer veneer layers.

In contrast to the Boggs reference, the laminated structure of claim 17 of this invention have a veneer layer on only one side of the structure. Moreover, as recited in claim 37, the

laminate of this invention requires the simultaneous lamination of the alpha cellulose sheet to both sides of the substrate.

Applicant notes that since claims 53 and 54 have now been cancelled, this ground of rejection is moot.

Claims 14, 17, 24, 26-29, 36-41, 48 and 50-54 stand rejected under 35 U.S.C. 103(a) as obvious over Baymiller (U.S. Patent No. 3,816,236) in view of McClain (U.S. Patent No. 1,299,747). This ground of rejection is traversed.

The Examiner states that Baymiller teaches a veneered or laminated board structure having a crossbanding material sandwiched between a wood core and a wood veneer. According to the reference, the crossbanding material is made from a porous felt sheet containing a urea formaldehyde resin. The reference states that the felt material is a porous material in sheet form, and is composed of rag and asplund wood fibers. See col. 1, lines 64-48 of the reference.

The Examiner acknowledges that the crossbanding material of Baymiller comprises a felt material saturated with a urea formaldehyde resin, and that Baymiller's "preferred" material does not comprise a resin saturated kraft paper. However, the Examiner contends that it would have been obvious for one skilled in the art to utilize kraft paper manufactured by the International Paper Company for the crossbanding material taught in Baymiller.

With respect to kraft paper made by International Paper Company, Baymiller states that trouble was experienced in its use, and the manufacture and storage of the material is problematic. See col. 1, lines 30-37 of the reference. Consequently, Baymiller actually teaches one skilled in the art away from the use of kraft paper as a crossbanding material.

The Examiner also acknowledges that Baymiller does not teach that a saturated resin sheet should be applied to non-veneered surfaces. The McClain reference has been cited in order to establish that saturated sheets can be impregnated with a suitable adhesive.

Applicant reiterates that the purpose of saturating the kraft paper of this present invention with a resin on the side of the panel opposite the veneer face is to reduce warpage of the laminate. In contrast, the purpose of coating the veneer in McClain is to provide a durable surface finish. See page 2, lines 115-130 of McClain. Accordingly, applicant submits that one

skilled in the art would not look to the McClain reference for guidance regarding product warpage when the reference is only concerned with the durability of the surface finish.

Finally, the resin used in the McClain reference is a phenolic resin, rather than the melamine resin recited in claim 17, and claims dependent thereon, and no basis has been provided for substituting a melamine resin for the phenolic resin of McClain to arrive at the present invention.

Claims 23, 35 and 47 have been rejected under 35 U.S.C. 103(a) as obvious over Baymiller in view of McClain, as applied above, and further in view of Guyette (U.S. Patent No. 5,425,986). This ground of rejection is also traversed.

Both the Baymiller and McClain references have been discussed above. Applicant submits that these references would not apply to claims 23, 35 and 47 for the reasons discussed above in connection with the previous rejections.

The Guyette reference has been cited for its disclosure that the kraft paper should have a weight of 25 to 400 grams, and that the paper can be impregnated with 5% to about 75% by weight of resin. Applicant maintains that the Guyette reference fails to cure the deficiencies of either the Baymiller or McClain references as noted above, and specifically that neither Guyette nor McClain teaches or suggests the use of kraft paper in the Baymiller product.

Claims 18-21, 30-33 and 42-45 stand rejected under 35 U.S.C. 103(a) as obvious over Baymiller in view of McClain, and further in view of Brooker et al. (U.S. Patent No. 5,723,221). This rejection is traversed.

The Brooker et al. reference has been relied on as teaching that melamine and urea formaldehyde resins are interchangeable as adhesives for saturating paper sheets in high or low pressure processes, and that fillers can be added to the adhesive. However, although these resins may be equivalent in the context of the Brooker et al. product, there is no indication that the resin would be suitable in the Baymiller product. Moreover, Brooker et al. would still fail to teach or suggest the use of kraft paper in Baymiller, or to overcome the further deficiencies of that reference.

Claims 25 and 49 have been rejected under 35 U.S.C. 103(a) as obvious over Baymiller in view of McClain, and further in view of Carter et al. (U.S. Patent No. 5,704,134) or Sunol (U.S. Patent No. 4,992,308). This ground of rejection is also traversed.

The Examiner states that the Carter reference teaches that lumber is typically dried to a moisture content of 6-15%, and that the Sunol reference teaches that wood equilibrates to a moisture content of 4-15% at atmospheric pressure. In response, applicant submits that notwithstanding the limited nature of the disclosures of the secondary references, neither of these references is effective to cure the deficiencies of the Baymiller and McClain references as described above.

Claims 14, 17, 24, 26-29, 36-41, 48 and 50-54 have been rejected under 35 U.S.C. 103(a) over Molloy et al. (U.S. Patent No. 3,916,059) in view of Baymiller. This ground of rejection is traversed.

The Examiner contends that the Molloy et al. reference describes a laminated structure comprising a crossbanding material sandwiched between a wood core and a veneer. The Examiner further states that the back sheet of the Molloy et al. laminate may comprise a crossbanding sheet. The Examiner acknowledges that Molloy et al. does not describe the use of a resin saturated kraft paper as a crossbanding material, but contends that this is taught by the Baymiller reference.

As stated in the Office Action, the Molloy et al. reference describes the use of the crossbanding sheet as the surface sheet in place of the veneer. However, the reference specifically states that this is accomplished in order to obtain a decorative outer surface. See col. 3, lines 3-8. In contrast, and as noted previously, the purpose of providing the resin saturated kraft paper on the side opposite the veneer in the present invention is to prevent warpage of the laminated structure. Applicant submits that Molloy et al., like the McClain reference, provides no guidance to one skilled in the art with respect to warpage, and therefore, one skilled in the art would not be motivated to combine the references as suggested by the Examiner.

Claims 23, 35 and 47 have been rejected under 35 U.S.C. 103(a) as obvious over Molloy et al., in view of Baymiller, and further in view of Guyette. This ground of rejection is traversed.

The Molloy et al., Baymiller and Guyette references have all been discussed above. The Guyette reference fails to cure the deficiencies of either the Baymiller or McClain references as noted above, and specifically that neither of these references teaches or suggests the use of kraft paper in the Baymiller product. Therefore, Guyette would not render obvious the invention encompassed by these claims.

Claims 18-21, 30-33 and 42-45 have been rejected under 35 U.S.C. 103(a) as obvious over Molloy et al. in view of Baymiller, and further in view of Brooker et al. This ground of rejection is traversed.

The Examiner contends that the Brooker et al. reference teaches that melamine and urea formaldehyde resins are interchangeable as adhesives for saturating paper sheets in high or low pressure processes, and that fillers can be added to the adhesive. However, although these resins may be equivalent in the context of the Brooker et al. product, there is no indication that the resin would be suitable in the Molloy et al. product.

Claims 25 and 49 stand rejected under 35 U.S.C. 103(a) as obvious over Molloy et al. in view of Baymiller, and further in view of Carter et al. or Sunol. This ground of rejection is also traversed.

The Examiner states that the Carter reference teaches that lumber is typically dried to a moisture content of 6-15%, and that the Sunol reference teaches that wood equilibrates to a moisture content of 4-15% at atmospheric pressure. In response, applicant submits that notwithstanding the limited nature of the disclosures of the secondary references, neither of these references is effective to cure the deficiencies of the Molloy et al. and Baymiller references as described above.

In view of the foregoing facts and reasons, this application is now believed to overcome all remaining rejections, and to otherwise be in proper condition for allowance. Accordingly, withdrawal of the outstanding rejections, and favorable action on this application, is solicited. The Examiner is invited to contact the undersigned at the telephone number listed below if this is believed to facilitate allowance of this application.

Respectfully submitted,

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MARKED-UP CLAIM

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(a) forming a layered structure comprising a rigid substrate layer having two substantially flat sides, a resin-saturated alpha cellulose sheet layer disposed on each of said sides, and a veneer layer disposed on only one of said sheet layers, wherein the alpha cellulose layers are simultaneously laminated to both sides of the substrate; and

(b) subjecting said structure to elevated temperature and pressure in a pressing apparatus for a time sufficient to cure said resin at said temperature and pressure, said pressing apparatus comprising a first platen and a second platen, said first platen operating at a temperature different from an operating temperature of said second platen, to provide an unwarped, laminated composite wood product.